

Remarks

Claims 1-20 remain pending in this application after entry of this paper. The Examiner has rejected claims 1-8 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,366,883 to Campbell et al. Also, claims 9, 10, 13, and 17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell. Claims 11, 12, 14-16, and 18-20 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant disagrees with the Examiner's rejections and no amendments have been made to the existing claims.

Applicant's invention generally comprehends a method and system for converting text-to-concatenated voice utilizing a digital voice library and a set of playback rules as set forth in the various claimed combinations. The improved method and system would be able to generate output for unknown text. In addition to inflection selection and unknown word processing, the system and method would determine and manipulate the playback switch points of the beginnings and endings of recordings for synchronized end and beginning sounds for use in a concatenated speech application to produce optimal playback output. At the more detailed level, sonic features of the beginnings and endings of recordings are classified as tone, noise, impulse. At a further detailed level, based on these classifications, the invention dictates a dynamic switching scheme.

In contrast, Pat. No. 6,366,883 to Campbell et al. discloses a speech synthesizer apparatus capable of converting text to speech without using prosodic modification rules and without executing any signal processing. Rather, the scope of Campbell concentrates on the technique used to analyze and extract speech segments of the speech waveform signals to create a speech waveform database and further to retrieve speech waveform signals from the speech waveform database. The speech segments of speech waveform signals are analyzed, indexed, and stored according to acoustic and prosodic feature parameters. The speech segments of speech waveform signals are concatenated sequentially by reading out speech segments

corresponding to the index information from the speech waveform database: This process is explained in the abstract.

Regarding the rejection of claims 1-8, independent claim 1 recites a method for converting text to concatenated voice by utilizing a digital voice library and a set of playback rules. The digital voice library includes a plurality of voice recordings with each recording having a starting sonic feature and an ending sonic feature. The method includes receiving text data, converting the text data into a sequence of voice recordings in accordance with the digital voice library and the set of playback rules. The method further comprises generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings, wherein concatenating a first recording and a second recording adjacent to the first recording includes manipulating the ending sonic feature of the first recording to determine a first recording switch point, manipulating the starting sonic feature of the second recording to determine a second recording switch point, and synchronizing the first recording switch point and the second recording switch point.

The Examiner particularly points out col. 6, ll. 54-59 of Campbell to show the claim 1 recited feature of concatenating a first recording and a second recording adjacent to the first recording by manipulating the ending sonic feature of the first recording to determine a first recording switch point, manipulating the starting sonic feature of the second recording to determine a second recording switch point, and synchronizing the first recording switch point and the second recording switch point. However, Applicant contends that Campbell fails to describe or suggest manipulating the starting and ending sonic features to determine first and second switch points, or synchronizing first and second recording switch points as in Applicant's claim 1.

Col. 6, ll. 54-59 merely describes the second stage of processing by the speech analyzer in Campbell. The speech analyzer simply performs speech analysis of a speech waveform database, which more specifically includes generation of a phonemic sequence, alignment of the phonemes, and extraction of acoustic feature parameters. The paragraph cited

by the Examiner describes one stage of several for creating a speech waveform database wherein ultimately, based on indexed information, the speech synthesizer reads out speech segments of speech waveform signals sequentially.

Campbell does not describe or suggest a method of concatenating first and second recordings by manipulating the ending sonic feature of the first recording to determine a first recording switch point, manipulating the starting sonic feature of the second recording to determine a second recording switch point, and synchronizing the first recording switch point and the second recording switch point as in claim 1. For this reason, Applicant maintains that independent claim 1 is believed to be patentable.

Claims 2-8 are dependent claims and are also believed to be patentable.

Regarding the rejection of dependent claims 9, 10, 13, and 17, these claims are believed to recite additional patentable features relating to synchronizing first and second recording switch points. The Examiner cites Table 1, and col. 6, ll. 54-59 of Campbell. Table 1 provides a summary of feature parameters including index information and first prosodic feature parameters used by the speech analyzer in the third stage which are used to generate feature vectors or parameters for respective phonemes. Col. 6, ll 54-59 describes the second stage of the process described by Campbell as the phoneme alignment process.

Campbell still fails to describe playback switch points of the beginnings and endings of recordings being manipulated and then synchronized, or any of more detailed features of synchronizing first and second recording switch points in claims 9, 10, 13, and 17.

Regarding claims 11, 12, 14-16, and 18-20, these claims recite allowable subject matter (as noted by the Examiner). Additionally, these claims depend from claim 1 and are also believed to be patentable.

In summary, the claims recite subject matter that is not described or suggested by the prior art, and are believed to be patentable. Specifically, the prior art fails to describe or suggest a method or system which includes manipulating the ending sonic feature of the first recording to determine a first recording switch point, manipulating the starting sonic feature of the second recording to determine a second recording switch point, and synchronizing the first recording switch point and the second recording switch point, in the various claimed combinations. Reexamination and reconsideration of claims 1-20 is respectfully requested.

Respectfully submitted,

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